

What is claimed is:

- 1           1.       A method of performing power control in a mobile communications  
2       system having a base station and a mobile unit, comprising:  
3                detecting an error in reception of predetermined information in a link  
4       between the base station and the mobile unit when traffic channels are not being  
5       communicated; and  
6                adjusting a power control element based on the detected error.
- 1           2.       The method of claim 1, wherein detecting the error occurs during a  
2       discontinuous transmission mode.
- 1           3.       The method of claim 1, further comprising receiving a pilot channel from  
2       the mobile unit over the link, the pilot channel containing the predetermined information.
- 1           4.       The method of claim 1, wherein adjusting the power control element  
2       comprises adjusting a ratio of energy per bit to noise spectral density.
- 1           5.       The method of claim 4, wherein adjusting the power control element  
2       comprises adjusting a target  $E_b/N_0$  value.
- 1           6.       The method of claim 1, wherein detecting the error comprises detecting  
2       the predetermined information over a given period of time.
- 1           7.       The method of claim 1, wherein detecting the error comprises detecting a  
2       given number of samples of the predetermined information.
- 1           8.       The method of claim 7, wherein detecting the error comprises detecting a  
2       given number of bits of the predetermined information.

1           9.     The method of claim 1, further comprising communicating a power  
2 control command based on the power control element to affect transmission power of the  
3 mobile unit.

1           10.    The method of claim 1, wherein detecting the error comprises detecting a  
2 bit error rate.

1           11.    The method of claim 1, further comprising receiving the predetermined  
2 information over a reverse link.

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2           12.    The method of claim 1, further comprising receiving the predetermined  
information over a forward link.

1           13.    The method of claim 1, further comprising receiving the predetermined  
2 information over a link according to a code-division multiple access protocol.

1           14.    The method of claim 1, further comprising detecting that the base station  
2 is in discontinuous transmission mode.

1           15.    The method of claim 1, further comprising detecting that the mobile unit is  
2 in a discontinuous transmission mode.

1           16.    The method of claim 15, wherein detecting that the mobile unit is in  
2 discontinuous transmission mode comprises detecting a power level of a traffic channel  
3 transmitted by the mobile unit.

1           17.    The method of claim 15, wherein detecting that the mobile unit is in  
2 discontinuous transmission mode comprises detecting a state of a predetermined  
3 information field.

1 18. The method of claim 17, wherein the information field comprises one or  
2 more power control bits of a data frame transmitted by the mobile unit.

1 19. The method of claim 15, wherein adjusting the error control element is  
2 based on the detected error if the mobile unit is detected to be in the discontinuous  
3 transmission mode, the method further comprising adjusting the error control element  
4 based on a frame error rate of traffic channels when the mobile unit is detected to be not  
5 in discontinuous transmission mode.

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20. A system for use in a mobile communications system, comprising:  
2 a receiver to receive control signaling and traffic signaling; and  
3 a controller to detect for error in the received control signaling and to  
4 adjust a power control condition based on detected error.

21. The system of claim 20, wherein the control signaling comprises a pilot  
channel.

22. The system of claim 21, wherein the receiver is adapted to receive code-  
division multiple access control signaling.

23. The system of claim 22, wherein the receiver is adapted to receive IS-2000  
2 control signaling.

1 24. The system of claim 20, wherein the traffic signaling is not transmitted  
2 during certain periods, the controller adapted to detect for error during such periods.

1 25. The system of claim 24, wherein the traffic signaling is not transmitted  
2 during discontinuous transmission mode.

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26. The system of claim 20, wherein the control and traffic signaling are  
communicated in a reverse link between a mobile unit and a base station.

1 27. The system of claim 20, wherein the control and traffic signaling are  
2 communicated in a forward link between the mobile unit and a base station.

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2 28. The system of claim 20, wherein the power control condition comprises a  
ratio of energy per bit to noise spectral density.

1 29. The system of claim 28, wherein the ratio includes an  $E_b/N_0$  ratio.

1 30. An article comprising one or more machine-readable storage media  
2 containing instructions for performing tasks in a mobile communications system, the  
3 mobile communications system having a mobile unit, a base station, and a link between  
4 the mobile unit and base station, the instructions when executed causing a controller to:  
5 detect for one or more errors in control signaling received over the link;  
6 and  
7 adjust a power control element based on the detected one or more errors in  
the control signaling.

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1 31. The article of claim 30, wherein the one or more storage media contain  
2 instructions that when executed cause the controller to increase a target ratio of energy  
3 per bit to noise spectral density if an error rate exceeds threshold.

1 32. The article of claim 31, wherein the one or more storage media contain  
2 instructions that when executed cause the controller to decrease the target ratio if the  
3 error rate does not exceed the threshold.

1 33. A data signal embodied in a carrier wave comprising one or more code  
2 segments containing instructions for performing tasks in a mobile communications  
3 system, the instructions when executed causing a controller to:  
4 monitor one or more errors in receiving predetermined pilot signal  
5 information when traffic signaling is not being transmitted; and



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